Daryn Voss

SUMMARY

SENIOR PROCESSING GEOPHYSICIST

LOCATION: Perth WA

TECHNICAL EXPERIENCE: 18 years

DUG, Dolphin Geophysical, Quantum Geoservices, Velseis, Veritas DGC

PROFILE

- Geophysicist specializing in 2D and 3D land seismic data processing, acquisition and in-field processing & QC.
- 18 years' industry experience processing 2D and 3D seismic data, working for Geophysical processing contractors and operating my own specialised seismic processing service.
- Full experience in the seismic cycle, including acquisition support, data processing, interpretation, R&D, software development and systems administration.
- Primarily application for hydrocarbon and coal exploration, but also hard-rock mineral exploration, geothermal prospecting, mine development and civil engineering.

KEY SKILLS

- Land processing, 2D & 3D, complex Navigation set-up, parameter testing & optimisation, processing stream selection, client liaison, creation of deliverables and report writing.
- Marine processing projects, 2D and 3D data, Transition Zone, Ocean Bottom cable, Microseismic, Wavelet-domain swell noise attenuation, Broadband marine processing, Shallow water demultiple, 2D and 3D SRME, 2D and 3D PreSTM, 2D PreSDM.
- Acquisition Support: performed in-field processing in support of acquisition work, including 2D/3D survey design, and remote support for on-board processing crews
- Seismic Interpretation: experience with seismic interpretation in the coal exploration patch and for shallow civil engineering purposes. I have tertiary education in structural sedimentology. I am familiar with the GeoGraphix range of interpretation product, including SeisVision and WellBase, as well as DUG's Insight package.
- Training: supervised and regularly performed training of staff in the area of seismic data processing.
- Research & Development: I have experience with completing research and development projects pertaining to seismic geophysics, including testing the efficacy of existing methods and examining new methods.
- Software Development and Systems Administration: I am able to write software in the following languages: C++, Python, Java, Fortran. I can generate ad hoc scripts rapidly, and can also design and implement large software projects. I have developed my own software for seismic interference attenuation, 3D statics modelling and deghosting. I have experience in systems administration in a Linux environment.

PROFESSIONAL EXPERIENCE

2015 – Present Senior Geophysicist Consulting, Perth

Seismic Processing Services

My position as senior geophysicist / Team Leader involves project management and hands on processing of client data. This includes technical quality control, designing flows, parameter selection and testing, AVO capability, delivery to clients' timelines and quality assurance, liaising with clients regarding best options to provide solutions that meet their objectives, supervision and development of junior staff and Linux system administration.

I have my own access to two Supermicro servers, diskspace & RAM for large projects (15,000 Km 2D or 1000 sq Km 3D), RAM (96 GB) and 14 TB diskspace.

The projects, which I have delivered in this position, include:

Geophysical Services Ltd (2017)

The objective of this project was land and marine data in South East Asia.

Atlas Geophysical (2016, 2017)

Multiple seismic processing projects in Australia.

2014 – 2015 Senior Geophysicist | Team Leader DUG Perth

DownUnder GeoSolutions provides a broad range of Geophysical services to the Oil and Gas Industry. My responsibilities as senior geophysicist / team leader were for project management and hands-on processing, output QC and client liaison on assigned projects and ensuring their delivery on schedule. Standard activities included managing the project and designing test sequences to solve processing & imaging issues, optimal parameter selection and testing, and managing the processing using DUG's computing hardware and SW. DUG's objectives were to produce an optimum, cost effective product for the client within an agreed time frame.

2013 – 2014 Technical Supervisor Dolphin Geophysical

Singapore

As technical supervisor for the Singapore processing centre my responsibilities included technical direction, project planning, production management, hands-on processing, output QC, client liaison, and staff management and training. I was responsible for the delivery, via our team of processors of our clients' seismic reprocessing datasets.

At Dolphin, I was involved in a mixture of large 2D and 3D marine projects, including 3D SRME and processing of broadband data, as well as a small number of land projects. I was responsible for maintaining the standard of processing work, final QC, client liaison, and ensuring optimal practices and processes are applied. I had some Linux system administration responsibilities. Dolphin purchased my previous employer, Quantum Geoservices.

2009 – 2013 Geophysicist Quantum GeoServices

Singapore/Islamabad

As processing Management and Technical Lead I was responsible for Project design and implementation, Hands-on processing, Production management, Technical direction, Output QC, Parameter selection and testing, Client liaison, Remote support for onboard processing by external clients. Hardware administration and installation, Linux system administration, External staff training in GNS GLOBEClaritas, Data loading, tape drive management, job scheduling.

Experience:

All responsibilities related to seismic processing and system management across both Quantum Geoservices processing centres were held by me through the four years of that company's existence.

I managed 8 junior staff in two processing centres (one in Singapore, the other in Islamabad). Additionally I carried out general processing tasks, including data loading, input QC, parameter testing, velocity picking, and report writing. Part of this work required the development of small software tools, using Python script. The main processing software in use was Globe Claritas, with DUG Insight as an interpretation tool, and Paradigm software used for some specialised depth migration needs, and OpenCPS for 3D migrations. I performed some interpretation tasks, tying well data to seismic and fault interpretation on land 2D projects during my time with Quantum.

During this time I completed large 2D and 3D marine and land processing projects. I also completed a number of special projects such as 3D velocity-depth modelling, and ocean-bottom cable 2D projects.

My management of the Islamabad staff was largely remote, via Skype/email/VNC/remote login, with occasional visits in-person to the Islamabad office.

2001 – 2009 Geophysicist/Senior Geophysicist Velseis Pty Ltd Brisbane

2008-2009 Senior geophysicist, Processing
2003-2008 Geophysicist, Processing
2001-2003 Geophysicist, Research and Development

During my time in Velseis' R&D department I developed and completed a model-based deconvolution tool for coal seam analysis for use by MIM, as it was then known. I also worked on iterative interbed multiple attenuation techniques, and played a role in the development of Velseis's acquisition control system. The main software development languages in use were Seismic Unix and Python.

In Velseis' processing department I was responsible for various aspects of the processing projects, including data loading and input QC, parameter testing, client liaison, first break and velocity picking, production management, output QC, production of deliverables, supervision of junior staff and report writing. My productivity was high, and I usually completed circa 15 processing projects per annum. The main processing software package in use at Velseis was ProMAX, with Geographix used for line-tie checking and well-log tying. During this period I was also called upon to generate small ad hoc software tools to aid the processing centre.

Approximately half of the seismic processing work that I performed during this time was related to shallow coal or coal seam gas, with the remainder made up by mineral-related work, oil and gas, civil engineering or geothermal prospecting. The bulk of this work was 2D but there was also a small amount of 3D work.

In particular, from 2005 to 2009, I worked on several projects related to coal seam gas prospecting in Queensland and New South Wales.

In 2008-2009, I was trained in seismic data interpretation using Geographix software for structural interpretation. I continued to work on general seismic processing during this period.

1999 - 2000 Specialist in Geophysics VERITAS DGC

Brisbane

1999-2000 Exploration seismic processing
1999 Research and development project

QUALIFICATIONS

1997-2002 BSc Geophysics

University of Queensland

Bachelor of Applied Science (Geophysics), 1st class Honours, University of Queensland, completed 1999

In addition to a detailed coverage of geophysical topics, UQ's BAppSc (Geoph) degree contains software development, advanced mathematics, and general geological topics including sedimentology, petrology, and ore genesis.

University Medal (University of Queensland)

Other Awards

1998 AusIMM (Australian Institute of Mining and Metallurgy) Bursary
1998 AGSO (Australian Geological Survey Organisation) Jubilee Prize
1998 GSA (Geological Society of Australia) Gold Medal for Geosciences
1999 PESA (Petroleum Exploration Society of Australia) Graduate Scholarship
1999 Petroz Petroleum Bursary

COMPUTING/SOFTWARE SKILLS

GNS GLOBEClaritas, OpenCPS, ProMax, Seismic Unix, DUG Insight. Have also used FreeUSP, OpenDTect, and SWP. Programming experience: C++ and Python: Written code to develop my own processing software package. Experienced Unix operating system user, and all Microsoft applications.

GLOBE Claritas is a complete and flexible package that is particularly strong in complex static solutions, for difficult land cases. It also includes a full suite of modern processing options including broadband processing and 3D PSTM.

PUBLICATIONS

The Application of Generalised Linear Inversion to Prestack Multiple Attenuation (Honours thesis)

Seismic multiple attenuation based on pre-stack reflectivity modelling (2003) (Conference paper)
VOSS, Daryn, HEARN, Steve J.

Model-based deconvolution for dominant, thin-bed seismic reflections (2003) (Conference paper)
HEARN, Steve J., VOSS, Daryn

PROFESSIONAL ORGANISATIONS

Member of the SEG, and ASEG societies.

REFERENCES AVAILABLE ON REQUEST